

Table S1. The relative abundance (%) of top 20 bacteria and fungi from the soil of three groups at the genus level

Bacteria	Sample			Fungi	Sample		
	CK	M	MB		CK	M	MB
<i>Massilia</i>	22.95±9.05 ^a	0.08±0.06 ^b	0.06±0.02 ^b	<i>Fusarium</i>	6.06±2.35 ^b	37.31±10.30 ^a	3.96±2.57 ^b
<i>Chujaibacter</i>	10.39±6.69 ^a	0.45±0.18 ^b	4.26±0.95 ^{ab}	<i>Penicillium</i>	5.26±6.16 ^a	3.99±3.07 ^a	0.83±0.60 ^a
<i>Bacillus</i>	4.09±1.34 ^a	3.70±1.44 ^a	1.19±0.39 ^b	<i>Cladosporium</i>	4.13±2.42 ^a	1.08±1.77 ^a	1.66±0.33 ^a
<i>Streptomyces</i>	1.48±0.62 ^b	5.40±1.18 ^a	0.97±0.20 ^b	<i>Aspergillus</i>	0.91±1.21 ^a	2.55±3.80 ^a	3.02±0.55 ^a
<i>Sphingomonas</i>	2.35±0.64 ^a	3.42±1.88 ^{a±}	1.65±0.39 ^{a±}	<i>Mortierella</i>	0.72±0.17 ^b	0.29±0.28 ^b	2.02±0.29 ^a
<i>Nocardioides</i>	2.41±0.45 ^a	2.03±1.11 ^a	1.42±0.15 ^a	<i>Simplicillium</i>	2.41±1.80 ^a	0.00±0.00 ^b	0.06±0.01 ^b
<i>Rhodanobacter</i>	2.11±0.60 ^a	0.95±0.37 ^a	1.96±0.80 ^a	<i>Trichoderma</i>	0.41±0.20 ^a	0.12±0.11 ^a	1.54±2.51 ^a
<i>Jatrophihabitans</i>	1.72±0.24 ^a	1.51±0.11 ^a	0.55±0.04 ^b	<i>Conocybe</i>	0.03±0.06 ^b	0.04±0.03 ^b	1.54±0.57 ^a
<i>Lachnospiraceae NK4A136</i>	0.44±0.18 ^a	1.98±1.14 ^a	1.32±1.83 ^a	<i>Acremonium</i>	0.14±0.04 ^b	0.06±0.10 ^b	1.05±0.26 ^a
<i>Mizugakiibacter</i>	2.12±0.42 ^a	0.18±0.11 ^c	1.21±0.13 ^b	<i>Clitopilus</i>	0.01±0.02 ^a	0.16±0.26 ^a	1.00±1.01 ^a
<i>Luteibacter</i>	0.02±0.02 ^b	0.14±0.09 ^b	2.49±0.42 ^a	<i>Ceratocystis</i>	0.88±0.32 ^a	0.01±0.02 ^b	0.10±0.05 ^b
<i>Gemmatimonas</i>	0.72±0.29 ^{ab}	0.60±0.21 ^b	1.17±0.17 ^a	<i>Archaeorhizomyces</i>	0.22±0.29 ^{ab}	0.00±0.00 ^b	0.43±0.10 ^a
<i>Pseudolabrys</i>	0.45±0.24 ^b	1.06±0.40 ^a	0.95±0.14 ^{ab}	<i>Conlarium</i>	0.29±0.23 ^a	0.09±0.06 ^a	0.06±0.02 ^a
<i>Marmoricola</i>	0.54±0.16 ^a	1.00±0.34 ^a	0.82±0.11 ^a	<i>Chaetomium</i>	0.04±0.03 ^b	0.05±0.03 ^b	0.36±0.12 ^a
<i>Altererythrobacter</i>	0.34±0.16 ^a	1.28±0.38 ^a	0.69±0.20 ^b	<i>Coniochaeta</i>	0.00±0.00 ^a	0.26±0.44 ^a	0.01±0.01 ^a
<i>Luteimonas</i>	0.22±0.06 ^b	0.32±0.27 ^b	1.65±0.63 ^a	<i>Trichothecium</i>	0.00±0.00 ^b	0.00±0.00 ^b	0.26±0.03 ^a
<i>Nitrolancea</i>	0.69±0.12 ^a	0.73±0.19 ^a	0.64±0.07 ^a	<i>Chrysosporium</i>	0.06±0.05 ^b	0.00±0.00 ^b	0.19±0.07 ^a
<i>Pseudomonas</i>	0.45±0.09 ^a	0.93±0.46 ^a	0.64±0.36 ^a	<i>Morchella</i>	0.12±0.20 ^b	0.00±0.00 ^a	0.10±0.05 ^a
<i>Ruminococcaceae UCG-014</i>	0.17±0.08 ^a	0.93±0.46 ^a	0.64±0.36 ^a	<i>Rhinocladiella</i>	0.00±0.00 ^b	0.00±0.00 ^b	0.22±0.08 ^a
MND1	0.13±0.05 ^c	0.57±0.21 ^a	1.13±0.24 ^b	<i>Hannaella</i>	0.19±0.09 ^a	0.00±0.00 ^b	0.02±0.01 ^b

Data represent means ± standard error of three repeated experiments (n = 3). Different letters indicate significant differences (p < 0.05).

Table S2. Spearson's correlation coefficients between soil physicochemical properties

	pH	SS	SOC	TN	TP	TK	Ava-N	NO3-N	NH4+-N	Ava-P	Ava-K
pH		-0.88**	-0.87**	-0.83**	0.440	0.520	-0.88**	-0.95**	-0.450	0.560	0.93**
SS	-0.88**		0.88**	0.82**	-0.480	-0.280	0.92**	0.87**	0.420	-0.430	-0.87**
SOC	-0.87**	0.88**		0.85**	-0.400	-0.330	0.93**	0.88**	0.430	-0.530	-0.93**
TN	-0.83**	0.82**	0.85**		-0.450	-0.430	0.83**	0.82**	0.620	-0.68*	-0.82**
TP	0.440	-0.480	-0.400	-0.450		0.67*	-0.430	-0.480	-0.88**	0.83**	0.380
TK	0.520	-0.280	-0.330	-0.430	0.67*		-0.480	-0.470	-0.630	0.8**	0.480
Ava-N	-0.88**	0.92**	0.93**	0.83**	-0.430	-0.480		0.85**	0.400	-0.520	-0.95**
NO3-N	-0.95**	0.87**	0.88**	0.82**	-0.480	-0.470	0.85**		0.500	-0.600	-0.85**
NH4+-N	-0.450	0.420	0.430	0.620	-0.88**	-0.630	0.400	0.500		-0.9**	-0.400
Ava-P	0.560	-0.430	-0.530	-0.68*	0.83**	0.8**	-0.520	-0.600	-0.9**		0.500
Ava-K	0.93**	-0.87**	-0.93**	-0.82**	0.380	0.480	-0.95**	-0.85**	-0.400	0.500	

Significance levels of one-way ANOVA: **, P < 0.01; *, P < 0.05; ns, not significant